JAH 3 0 2004 W

17-53

Patent Attorney File No. 612,404-384

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

YING HUANG ET AL

Serial No. 10/072,660

Filed: February 6, 2002

For: Dielectrophoretic Separation &

Immunoassay Methods on Active

Programmable Devices

Group Art Unit: 1753

Examiner: K. Olsen

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents Washington, D.C. 20231

Sir:

Pursuant to 37 C.F.R. §1.56 and in accordance with 37 C.F.R. §§1.97–1.98, information relating to the above–identified application is hereby disclosed. The accompanying Form PTO–1449 provides a listing of documents that may be relevant to the subject application.

It is requested that the Examiner fully consider the art cited in the accompanying Form 1449, initial the left-most column of the form adjacent each cited reference, and return a copy for Applicants' records. It is further requested that the art be cited on the cover of any patent issuing from the subject application.

CERTIFICATE OF MAILING (37 C.F.R. §1.8a)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

1-23-04

Denise Doss

Date of Deposit

Patent Attorney File No. 612,404-384

In accordance with §1.97(b), this Information Disclosure Statement is being filed before the mailing of a first Office Action on the merits of the above-identified application, and therefore no fee is required. If a first Office Action has been mailed, then please enter this Information Disclosure Statement and charge Deposit Account No. 50-2862 for any necessary fees.

In accordance with §1.98(d), copies of some or all of the references listed on the attached Form PTO-1449 are not enclosed herewith because they were previously cited by or submitted to the Patent and Trademark Office in prior parent applications for which a claim for priority under 35 U.S.C. §120 has been made in the instant application. Accordingly, Applicants will provide duplicate copies in respect of the present case only if the Examiner so desires.

This statement should not be construed as a representation that more material information does not exist or that an exhaustive search of the relevant art has been made. Nor does this statement constitute an admission by Applicants or Applicants' agent that the information provided herein is necessarily prior art to Applicants' invention. Moreover, Applicants reserve the right to establish the patentability of the claimed invention over any of the listed documents should they be applied there-against as references. Please charge any deficiency or credit any overpayment to Deposit Account No. 50-2862.

Respectfully submitted,

O'MELVENY & MYERS LLP

Reg. No. 31,125

DBM/dnd

IR1:1051700.1

FORM PTO-1449

OUST OF RATENTS AND OTHER ITEMS FOR APPLICANT'S

JAN 3 0 2004 (Use several sheets if necessary)

ATTY. DOCKET NO.	SERIAL NO.	
612404-384	10/072,660	
(prev 267/156)		
APPLICANT:		
Ying Huang, et al.		
FILING DATE:	GROUP	

1753

February 6, 2002

EXAMINER " INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	3,346,479	10/10/1967	Natelson	204	301	04/09/1964
	3,375,187	03/26/1968	Buchler	204	301	05/13/1965
	3,533,933	10/13/1970	Strauch	204	180	04/01/1968
	3,539,493	11/10/1970	Dorman	204	299	08/31/1967
	3,616,454	10/26/1971	Levy et al.	204	299	03/13/1969
	3,640,813	02/08/1972	Nerenberg	204	299	06/09/1969
	3,697,405	10/10/1972	K. Butter et al.	204	275	11/03/1969
	3,773,648	11/20/1973	Van Welzen et al.	204	299	10/25/1972
	3,791,950	02/12/1974	Allington	204	299	02/14/1972
	3,902,986	09/02/1975	Nees	204	299	04/23/1973
	3,980,546	09/14/1976	Caccavo	204	299	06/27/1975
	4,111,785	09/05/1978	Roskam	204	180	05/16/1977
	4,326,934	04/27/1992	Pohl	204	547	12/31/1979
	4,390,403	06/28/1983	Batchelder	204	547	07/24/1981
	4,441,972	04/10/1984	Pohl	204	180	04/08/1983
	4,479,861	10/30/1984	Hediger	204	180	07/19/1983
	4,661,451	04/28/1987	Hansen	435	174	02/06/1984
	4,699,706	10/13/1987	Burd et al.	204	301	05/30/1986
	4,787,963	11/29/1988	MacConnell	204	180	05/04/1987
	4,877,510	10/31/1989	Chen	204	299	10/25/1988
	4,881,107	11/14/1989	Matsushita	357	23.4	06/29/1988
	4,908,112	03/13/1990	Pace	204	299	06/16/1988
	4,971,670	11/20/1990	Faupel et al.	204	182.8	04/08/1988

DATE CONSIDERED:

EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant

FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

12404-384	
prev 267/156)	
DDL ICANT.	

ATTY, DOCKET NO.

SERIAL NO. 10/072,660

APPLICANT:

Ying Huang, et al. FILING DATE:

GROUP:

February 6, 2002 1753

JAN 3 0 2004 Use several sheets if necessary)

EMARKER DOCUMENT
INITIAL NUMBER DATE

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	5,085,756	02/04/1992	Swedberg	204	299	08/21/1990
	5,126,022	06/30/1992	Soane et al.	204	180	02/28/1990
	5,139,637	08/18/1992	MacConnell	204	299	03/13/1991
	5,151,189	09/29/1992	Hu et al.	204	635	09/17/1990
	5,161,165	09/29/1992	Huynh	204	299	04/25/1990
	5,202,010	04/13/1993	Guzman	204	299	08/28/1991
-1	5,209,831	05/11/1993	MacConnell	204	299	06/14/1991
	5,217,593	06/08/1993	MacConnell	204	299	07/30/1992
···.	5,269,931	12/14/1993	Hu et al.	210	635	08/20/1991
	5,296,114	03/22/1994	Manz	204	180.1	11/30/1992
	5,340,499	08/23/1994	Shukla	204	180	10/23/1992
	5,344,535	09/06/1994	Betts et al.	204	183.1	04/27/1993
	5,376,249	12/27/1994	Afeyan et al.	204	180	11/25/1992
	5,382,511	01/17/1995	Stapleton	435	6	08/24/1992
	5,445,934	08/29/1995	Fodor et al.	435	6	09/30/1992
	5,434,049	07/18/1995	Okano	435	6	02/24/1993
	5,451,500	09/19/1995	Stapleton	435	6	03/03/1992
<u></u>	5,527,670	06/18/1996	Stanley	435	6	08/09/1994
	5,569,367	10/29/1996	Betts et al.	204	547	01/27/1995
	5,589,047	12/31/1996	Coster et al	204	450	04/05/1994
	5,605,662	02/25/1997	Heller et al.	422	68.1	11/01/1993
	5,632,957	05/27/1997	Heller et al.	422	68.1	09/09/1994
	5,653,859	08/05/1997	Parton et al.	204	450	11/20/1995

EX	ΑN	IINE	R:
17.	. 17	O1-	

Kaj K. Olsen

DATE CONSIDERED:

EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant

FORM PTO-1449

OST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT

JAN	3	0	2004	نک
-----	---	---	------	----

Use several sheets if necessary)

A	TT	1.	DO	CK	ET	NO.	
6	1240)4.	384				

(prev 267/156)

APPLICANT:

Ying Huang, et al. FILING DATE:

GROUP:

SERIAL NO.

10/072,660

February 6, 2002 1753

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	5,653,939	08/05/1997	Hollis et al.	422	50	08/07/1995
	5,795,457	08/18/1998	Pethig et al.	204	547	06/05/1995
	5,814,200	09/29/1998	Pethig et al.	204	547	09/26/1995
	5,849,486	12/15/1998	Heller et al.	435	6	09/27/1995
	5,858,192	01/12/1999	Becker et al.	204	547	10/18/1996
	6,017,696	01/25/2000	Heller	435	6	07/07/1994
	6,054,270	04/25/2000	Southern	435	6	09/09/1997
	6,071,394	06/06/2000	Cheng et al.	204	547	01/30/1998
	6,099,803	08/08/2000	Ackley et al.	422	68.1	02/20/1998
	6,113,768	09/05/00	Fuhr et al.	204	643	09/09/1996
	6,280,590	08/28/2001	Cheng et al.	204	463	04/13/2000
	6,309,601	10/30/2001	Juncosa et al.	422	68.1	05/01/1997
	6,335,161 B1	01/01/2002	Martin et al.	435	6	02/25/1998

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANS YES	LATION NO
	EP 0047645 B1	11/28/1984	EP (Kashihara et al.)				
	EP 0243501 A1	11/04/1987	EP (Saeda et al.)				
	JP 55-152027 A	11/27/1980	JP (Keisuke et al.)				
	JP 56-167419 A	12/23/1981	JP (Toshiji et al.)				
	JP 59-215838 A	12/05/1984	JP (Hideo et al.)				
	JP 59-227131 A	12/20/1984	JP (Hiroyuki et al.)				
,	JP 01163049 A	06/27/1989	JP (Satoshi et al.)				
	JP 02292013 A	12/03/1990	JP (Hidekazu et al.)				
	USSR 434985	01/21/1975	USSR				

EXA	M	IN	ER:

Kaj K. Olsen

DATE CONSIDERED:

EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant

FORM PTO-1449	ENTS AND OTHER	ITEMS FOR A	ATTY. DOCKET NO. 612404-384 (prev 267/156) SERIAL NO. 10/072,660					
JAN 3 0 2004	APPLICANT: Ying Huang, et al. FILING DATE: GROUP: February 6, 2002 1753							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNT		CLASS	SUB CLASS	TRANS YES	LATION NO

PCT (Heller et al.)

USSR

07/25/1978

02/22/2001

USSR 616568

WO 01/13126 A1

	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)
	Becker et al., "The removal of human leukemia cells from blood using interdigitated microelectrodes," J. Phys. D: Appl. Phys. 27 (1994) 2659-2662
	Camag, Inc. Product Literature
	Edman, C.F. et al., "Electric field directed nucleic acid hybridization on microchips", Nucleic Acids Research, Vol. 25, No. 24, pp. 4907-4914, 1997.
	Fuhr et al., Positioning and Manipulation of Cells and Microparticles Using Miniaturized Electric Field Traps and Travelling Waves; Sensors and Materials, Vol. 7, No. 2 (1995) 131-146
	Fuhr, G., "Cell Manipulation and Cultivation Under AC Electric Field Influence in Highly Conductive Culture Media", Biochem. Biophys. Acta, Vol. 1158, pp. 40-46, 1993.
	Markx et al., "Dielectrophoretic characterization and separation of micro-organisms", Microbiology (1994) 140, 585-591
	Markx et al., "Dielectrophoretic separation of bacteria using a conductivity gradient," Journal of Biotechnology, 51 (1996) 175 180
-	Pethig R. et al., "Positive and negative dielectrophoretic collection of colloidal particles using interdigitated castellated mocroelectrodes," J. Phys. D: Appl. Phys, 24 (1992) 881-888
	Pethig, R., "Dielectrophoresis: Using Inhomogeneous AC Electrical Fields to Separate and Manipulate Cells," Critical Reviews in Biotechnology, 16(4):331-348 (1996)
	Scanning Laser Microscopy Lab, Web Site print-out, http://www.science.uwaterloo.ca/research_groups/confocal (1997)
	Sosnowski, R. et al., "Rapid determination of single base mismatch mutations in DNA hybrids by direct electric field control", Proc. Natl. Acad. Sci. USA, Vol. 94, pp. 1119-1123, February 1997.
	Tony Wilson and Colin Sheppard, "Theory and Practice of Scanning Optical Microscopy", Academic Press, 1984 (ISBN-0-12-757760-2)
-	Wang et al., "Dielectrophoretic Manipulation of Particles," IEEE Transactions on Industry Applications, Vol. 33, No. 3 (May/June 1997)
	Wang, X., "A Unified Theory of Dielectrophoresis and Travelling Wave Dielectrophoresis", J. Phys. D: Appl. Phys., Vol. 27, pp. 1571-1574, 1994.
	Washizu, M., "Molecular Dlelectrophoresis of Biopolymers", IEEE Trans. Industry Applicat., Vol. 30, pp. 835-843, 1994.

EXAMINER:	DATE CONSIDERED:
Kaj K. Olsen	

EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant